California Regional Water Quality Control Board
North Coast Region

MONITORING AND REPORTING PROGRAM NO. R1-2003-0044

FOR

HUMBOLDT COUNTY RESORT IMPROVEMENT DISTRICT NO. 1
SHELTER COVE WASTEWATER TREATMENT FACILITY

Humboldt County

WASTEWATER MONITORING

Influent Monitoring

Influent composite samples shall be collected at a point within the facility headworks, where all waste entering the plant is present and preceding any treatment. Composite samples may be taken by a proportional sampling device approved by the Executive Officer or by grab samples composited in proportion to flow. In compositing grab samples, the sampling interval shall not exceed one hour. Influent samples shall be collected on the same day that effluent samples are collected and shall be analyzed for the following:

Constituent	Units	Sample Type	Frequency
BOD_5	mg/l	8-hr composite	monthly
Suspended Solids	mg/l	8-hr composite	monthly
Flow	mgd	continuous	continuous

Effluent Monitoring - Discharge to Ocean

Representative effluent samples shall be collected at any point following the chlorine contact chamber and before discharge to the ocean outfall line. Effluent samples shall be analyzed for the following:

Constituent	Units	Sample Type	Frequency
BOD_5	mg/l	8-hr composite	monthly
Suspended Solids	mg/l	8-hr composite	monthly
Settleable Solids	ml/l	grab	daily
pH	std. units	grab	daily
Chlorine Residual[1]	mg/l	grab	daily
Total Coliform	MPN/100ml	grab	weekly
Turbidity	mg/l	grab	daily
Chronic Toxicity	TUc	---	annually
Flow	mgd	continuous	continuous

[1] Chlorine residual must be monitored and reported twice: at the completion of the disinfection process prior to dechlorination and then again following dechlorination.

Effluent Monitoring – Chronic Toxicity

Critical life stage toxicity tests shall be performed to measure chronic toxicity (TUc) on an annual basis, when discharge to the Ocean is occurring. A minimum of three test species with approved test protocols, from the following list, shall be used to measure compliance with the toxicity limitation. Other test species may be used, if they have been approved for such testing by the State Water Board. If possible, the test species shall include a fish, an invertebrate, and an aquatic plant. Monitoring can be reduced to the most sensitive species following approval by the Regional Water Board. Dilution and control water should be obtained from an unaffected area of the receiving waters. The sensitivity of the test organisms to a reference toxicant shall be determined concurrently with each bioassay test and reported with test results. The Permittee shall conduct accelerated monitoring as described in **F. GENERAL PROVISIONS** 22 and 23 of Waste Discharge Requirements Order No. R1-2003-0044, when there is a sample above the daily maximum effluent limitation of 51 TUc.

Approved Tests – Chronic Toxicity

Species	Effect	Tier[1]	Reference[2]
giant kelp, *Macrocystis pyrifera1*	Percent germination; germ tube length	1	a, c
red abalone, *Haliotis rufescens*	abnormal shell development	1	a, c
oyster, *Crassostrea gigas*; mussels*, Mytilus spp*.	abnormal shell development; percent survival	1	a, c
urchin, *Strongylocentrotus purpuratus*; sand dollar, *Dendraster excentricus*	percent normal development	1	a, c
urchin, *Strongylocentrotus purpuratus*; sand dollar, *Dendraster excentricus*	percent fertilization	1	a, c
shrimp, *Homesimysis costata*	percent survival; growth	1	a, c
shrimp, *Mysidopsis bahia*	percent survival; fecundity	2	b, d
topsmelt, *Atherinops affinis*	larval growth rate; percent survival	1	a, c
Silversides, *Menidia beryllina*	larval growth rate; percent survival	2	b, d

[1] First tier methods are preferred for compliance monitoring. If first tier organisms are not available, the Permittee can use a second tier test method following approval by the Regional Water Board.

[2] Protocol References:

a. Chapman, G.A., D.L. Denton, and J.M. Lazorchak. 1995. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms. U.S. EPA Report No. EPA/600/R-95/136.

b. Klemm, D.J., G.E. Morrison, T.J. Norberg-King, W.J. Peltier, and M.A. Heber. 1991. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Marine and Estuarine Organisms. U.S. EPA Report No. EPA-600-4-91-003.

c. SWRCB 1996. Procedures Manual for Conducting Toxicity Tests Developed by the Marine Bioassay Project. 96-1WQ.

d. Weber, C.I., W.B. Horning, I.I., D.J. Klemm, T.W. Nieheisel, P.A. Lewis, E.L. Robinson, J. Menkedick and F. Kessler 9eds). 1998. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms. EPA/600/4-87/028. National Information Service, Springfield, VA.

Effluent Monitoring – Priority Pollutants

In the year prior to expiration of Order No. R1-2003-0044, during the dry weather flow period when discharge to the Ocean is occurring, a 8-hour composite sample of effluent shall be collected and analyzed for the pollutants with effluent limitations presented in Table B of Order No. R1-2003-0044. Laboratories analyzing these samples shall be certified by the Department of Health Services, in accordance with the provisions of Section 13176 of the California Water Code, and must include quality assurance/quality control data with their analytical reports. The results of analyses shall be submitted as part of the permit renewal application. See requirements regarding PRIORITY POLLUTANT ANALYTICAL AND REPORTING REQUIREMENTS below.

RECYCLED WATER MONITORING

During periods of the year when recycled water is being used to irrigate the golf course, representative samples of WWTF effluent shall be collected following advanced treatment and disinfection. Samples shall be analyzed for the following:

Constituent	Units	Sample Type	Frequency
BOD_5	mg/l	8-hr composite	weekly
Suspended Solids	mg/l	8-hr composite	weekly
Total Coliform	MPN/100 ml	Grab	weekly
pH	std. units	Grab	weekly
Turbidity	NTUs	Continuous	continuous
Chlorine Residual[1]	mg/l	Grab	daily
Flow	mgd	Continuous	continuous

When water is being recycled on the golf course, daily inspections shall be conducted. Observations shall be made and recorded regarding compliance with section **D. WATER RECYCLING REQUIREMENTS** of Order No. R1-2003-0044. Observations shall include saturated or ponded conditions, runoff or windblown spray/mist, and leaky or broken pipes/sprinklers. Climatic conditions (cloudy, sunny, foggy, rainy, wind conditions) shall be recorded daily.

Daily observations shall be recorded and records maintained pursuant to **F. GENERAL PROVISIONS** 10 of Order No. R1-2003-0044. A summary of daily recycling observations shall be submitted with monthly monitoring reports. Observed violations and corrective measures shall be noted in the report.

SLUDGE DISPOSAL MONITORING

In the monthly monitoring report, the Permittee shall describe the quantity of sludge processed (dried) and its ultimate disposal. The approximate quantity and disposition of other solid wastes generated by the WWTF shall be described.

The Permittee shall submit an annual solids handling report to the Regional Water Board by February 28 of each year for the period covering the previous calendar year, with the following:

a. The amount of screenings, sludges, and other solids removed from liquid wastes that year, reported in dry metric tons, and the amount accumulated from previous years.

b. For all sludge used as soil amendment, the results of all pollutant and pathogen monitoring, reported on a 100 percent dry weight basis for comparison with 40 CFR Part 503 limitations. Any sample results reported on a wet weight basis shall report the percent solids of that sample. Descriptions of methods used to achieve pathogen reduction and vector attraction reduction, including supporting time and temperature data, and certifications required in 40 CFR 503.17 and 503.27.

c. For all sludge used or disposed at the Permittee's facilities, the site and management practice information and certification required in 40 CFR 503.17 and 503.27; and

d. For all sludge temporarily stored, the information required in 40 CFR 503.20 to demonstrate temporary storage.

e. Names and addresses of entities receiving sludge for further treatment, use or disposal, and volumes of sludge sent to each.

PRIORITY POLLUTANT ANALYTICAL AND REPORTING REQUIREMENTS

1. Unless otherwise described in this Monitoring and Reporting Program, suitable analytical methods are those specified at 40 CFR 136 and in Standard Methods for the Examination of Water and Wastewater (latest available edition). All analytical data must be reported uncensored with the method detection limits and either the practical quantitation levels (PQLs) or the limits of quantitation (LOQs) identified. Only data from a laboratory certified by the State of California, Department of Health Services will be accepted.

2. Priority Pollutant Analysis

   Pollutants with effluent limitations presented in Table B of Order No. R1-2003-0044 shall be analyzed by one of the analytical methods shown in Appendix II of the Ocean Plan (2001). The Permittee shall use the Minimum Level, corresponding to the method used for analysis, for reporting and compliance determination. Minimum Levels are also found in Appendix II of the Ocean Plan (2001).

   Minimum Levels represent the lowest quantifiable concentration in a sample based on the proper application of method-specific analytical procedures and the absence of matrix interferences. Minimum Levels also represent the lowest standard concentration in the calibration curve for a specific analytical technique, after the application of appropriate method-specific factors.

   The Permittee shall instruct its laboratory to establish calibration standards so that the Minimum Level (or its equivalent, if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. The Permittee shall not use analytical data derived from extrapolation beyond the lowest point of the calibration curve.

The Permittee's laboratory may employ a calibration standard lower than the Minimum Level appearing herein only in accordance with the discussion above.

3. Priority Pollutant Reporting Protocols (for pollutants with effluent limitations presented in Table B of Order No. R1-2003-0044, unless stated otherwise in this Monitoring and Reporting Program).

   a. The Permittee must report with each sample result the Minimum Level, which corresponds to the analytical method employed, and the laboratory's current MDL.

   b. The Permittee must also report the results of analytical determinations for the presence of chemical constituents in a sample using the following protocols:

      i. Sample results greater than or equal to the reported Minimum Level must be reported "as measured" by the laboratory (i.e., the measured chemical concentration in the sample);

      ii. Sample results less than the reported Minimum Level, but greater than or equal to the laboratory's MDL, must be reported as "detected, but not quantified" or DNQ. The laboratory must write the estimated chemical concentration of the sample next to DNQ, as well as the words "estimated concentration," which may be shortened to "est. conc.";

      iii. Sample results less than the laboratory's MDL must be reported as "not detected" or ND.

4. Priority Pollutant Compliance Determination (for pollutants with effluent limitations presented in Table B of Order No. R1-2003-0044)

   a. Compliance with single constituent effluent limitations

      Discharges are out of compliance with the effluent limitation, if the concentration of the pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reported Minimum Level.

   b. Compliance with effluent limitations expressed as a sum of several constituents

      Discharges are out of compliance with an effluent limitation, which applies to the sum of a group of chemicals (e.g., PCBs), if the sum of the individual pollutant concentrations is greater than the effluent limitation. Individual pollutants of the group will be considered to have a concentration of zero, if the constituent is reported as ND or DNQ.

   c. Multiple sample data reduction

      The concentration of the pollutant in the effluent may be estimated from the result of a single sample analysis or by a measure of central tendency (arithmetic mean, geometric mean, median, etc.) of multiple sample analyses, when all sample results are quantifiable. (i.e., greater than or equal to the reported Minimum Level). When one or

more sample results are reported as ND or DNQ, the central tendency concentration of the pollutant shall be the median (middle) value of the multiple samples. If, in an even number of samples, one or both of the middle values is ND or DNQ, the median will be the lower of the two middle values.

REPORTING

Monitoring reports shall be submitted to the Regional Water Board for each month such that they are received on or before the first day of the second month following the monitoring period. Monitoring reports shall contain all monitoring results that were obtained during the month for which the report is prepared. Numerical data shall be tabulated and narrative reporting statements shall be in letter form and signed by the representative of the Permittee in accordance with signatory provisions of Order No. R1-2003-0044. The results of any monitoring done more frequently than required by this monitoring and reporting program shall be reported in the monthly monitoring report. Annual reports shall be submitted such that they are received by February 28 of each year.

A copy of the report shall be sent to the U.S EPA Regional Administrator at the following address.

Regional Administrator
U.S. Environmental Protection Agency
Region IX
75 Hawthorne Street
San Francisco, CA 94105

Ordered by _____

Susan A. Warner
Executive Officer

May 15, 2003